

A NEW POISONOUS AGARIC FROM THE CAPE PENINSULA

EDITH L. STEPHENS

(Hon. Reader in Fungi, Bolus Herbarium, University of Cape Town)

ABSTRACT

Clitocybe toxica. E. L. Stephens is a caespitose species growing in quantity in a wood of mixed conifers on Wynberg Hill and is the first record for South Africa of a species in the sub-section *Difformes* established by Fries. Its toxicity to test animals is such as to make it advisable to warn humans against it.

Clitocybe toxica. E. L. Stephens. sp. nov. caespitosa, stipites tres usque ad tringinta, cum basi coniuncti, pileo carnosio, convexo, saepe cum umbone humili, vel, postremo, plano; margine inflexo vel reflexo, colore primo fulvo-brunneo (Buffy-Brown) deinde olivo-brunneo, postea cinnamo-brunneo, postremo atro-brunneo. Lamellis subcurrentibus, separatis fere uno millimetro, primo arcuatis vel lineis rectis, in dimidia parte posteriore latius se extendentibus; albus deinde colore fulvo subfusco, margine brunneo, postremo fusco. Stipes primo solidus, deinde cavus cylindricusque, plerumque ad basim curvatus et transverse compressus, striatus. Colore "light-buff", deinde "snuff-brown", postremo "clove-brown". (Colores sicut Ridgway: Color Standards.)

DISTRIBUTION AND DESCRIPTION

This is the third species of the large genus *Clitocybe* (which according to Singer, p. 185, contains 200 to 300 species) to be recorded for the Cape Peninsula. One of the other two, *C. olearia*, is also poisonous (Stephens & Kidd. p. 18). *C. toxica* is the first endemic species to be reported from South Africa.

The largest group of specimens found so far were pushing up the pine-needle carpet in a small wood of mixed conifers off Monterey Avenue, on the upper slopes of Wynberg Hill and close to the formation of granite boulders known as the "Hen and Chickens". There it was collected by Mr. Frank Chapman in August 1964 and on subsequent dates, and he has also found it in the Tokai Forest. Outside the Cape Peninsula, the only record is a small collection brought by Mr. H. Major from Elgin.

Although, like most of our Agarics, it is most abundant in the rainy season (on the Cape Peninsula from May to October) it can apparently appear at almost any time of the year, given sufficient moisture. Thus in November 1964,

100 clumps were found on the Monterey Avenue site, and in early May 1965, about 200 clumps, after intermittent April rains.

The specimens are rarely solitary, generally caespitose, in clumps of three to thirty basally-connected individuals (Fig. 1 and Plate 1). Most commonly, five or six mature in a clump. They are hygrophanous, having a water-soaked appearance when wet.

The *Cap* varies in diameter from about 1.5 cm. when young up to 9 cm. or more in the older members of the clump. Its shape is at first conical to convex, then expanding to broadly convex, often with a low umbo, or becoming flat (fig. 2). The margin is at first smooth and regular, either straight or incurved; when mature it often becomes wavy, and is either upcurved or downcurved. The general *colour* of the cap when young is buffy-brown, deepening when mature to olive-brown, then cinnamon-brown to mummy-brown, and finally in decay darkening to a blackish-brown (colours as in Ridgway). But other shades of yellow and brown such as chamois, brownish-olive and Saccardo's umber often mingle in the largest caps. The older caps are often edged by a narrow margin of dark brown, deepening to bistre and mummy-brown. A light dusting of white from the basidiospores of the taller caps is often seen on the lower ones in the clump.



Mary Maytham Kidd

Fig. 1. A young clump of *C. toxica*. Life size.



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Fig. 2. Part of a mature clump of *C. toxica*. Three-quarters life size.



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Developing clumps of *Clitocybe Toxica*. Life size.

The *gills* are subdecurrent, are spaced in the mature cap about a millimetre apart, and are not easily separable. They are linear to arcuate when young, and at first narrow, but later broaden behind to about a centimetre in width; the front half continues to narrow to the margin of the cap. There are several lengths of gill, the shorter ones reaching to about halfway between margin and stem. These shorter gills are often wavy and minutely toothed, while the full-length ones are straight-edged with only occasional teeth. The colour of the gill is off-white when young, changing to light buff, and when ageing becoming tinged along the edge with light brown; finally in old age they are fuscous.

The mature *stem* (fig. 2.) is 5 to 15 cm. long, diameter 1 to 2 cm. Its texture is cartilaginous. At first cylindrical, it may remain so in the taller members of a clump, but generally the lower half becomes more or less curved and laterally compressed. The surface is longitudinally striated, but to the touch is smooth and slightly moist. There is no ring.

The *flesh* in both cap and stem is white at first, changing in maturity to light buff. In both taste and smell it faintly resembles the field mushroom.

Microscopic characters. The spores are white in mass; under the microscope either colourless or tinged a very pale buff. They are spherical; diameter 4 to 6 μ . Their wall is smooth and thin. Cystidia are absent, as is usual in *Clitocybe*. The cap surface is composed of ordinary parallel or branching hyphae, 2 to 5 μ broad. The basidia are 6 to 7 μ across, with four short sterigmata.

DISCUSSION

Systematic position. The large genus *Clitocybe* has been divided and classified by several mycologists, the first being Fries. In his classification, our species would fall under the sub-section *Difformes*, the first South African species to do so. Perhaps the most important of the modern revisions of the genus is that of Konrad et Maublanc (1948), by which it would come into their "Section 2. *Orbiformes*", in which the gills are "adnées, peu decurrentés", for the gills here are really only decurrent by a tooth, hardly more than adnate.

Poisonous properties. The Toxicology of this agaric has recently been investigated (Sapeika and Stephens 1965. p. 749). It has proved highly toxic to laboratory animals, though the active principle has not yet been identified. Though this does not necessarily mean that it is toxic to man, it certainly suggests that it is best avoided. This is a point of some practical importance, for the Hen and Chickens area is a favourite resort of Scouts, Guides and hikers, and the pinewood site itself is destined to be cut up for building plots.

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